

Claim Amendment Summary**Claims pending**

- At time of the Action: Claims 1-33 and 47-55.
- After this Response: Claims 1-4, 7-10, 16-22, 26-28, 33 and 47-55.

Canceled or Withdrawn claims: 5, 6, 11-15, 23-25, and 29-32.

Amended claims: 1, 3, 4, 7, 9, 16, 18-22, 28, 47, 49, 51 and 54.

New claims: none.

Claims:

1. (CURRENTLY AMENDED) A method for concealing an information pattern of multiple discrete values within a digital signal, the method comprising:

receiving the information pattern of multiple discrete values;

absolute-chessboarding the discrete values of the information pattern to produce absolute-chessboarded discrete values, wherein absolute-chessboarding comprises adjusting ~~one or more~~ successive discrete values of the information pattern so that the successive discrete values differ from immediately adjacent discrete values.

2. (ORIGINAL) A method as recited in claim 1 further comprising encoding the chessboarded discrete values into the digital signal, wherein such signal is noise in relation to the information pattern.

421 West Riverside, Suite 500
Spokane, WA 99201
P: 509.324-9256
F: 509.323-8979
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3. (CURRENTLY AMENDED) A method as recited in claim 1,

wherein:

each discrete value of the information pattern is represented by a defined set of multiple consecutive blocks, wherein each consecutive block within a defined set includes its representative discrete value;

the absolute-chessboarding further comprises adjusting the information pattern of multiple discrete values so that the representative discrete values in the consecutive blocks of at least one defined set of the multiple discrete values differ from adjacent representative discrete values in the consecutive blocks of the same defined set;

~~pseudorandomly determining whether to change each discrete value of the information pattern, wherein such determining is based upon a pseudorandom number generator (PRNG) and a key;~~

~~changing each discrete value of the information pattern that the determining indicates should be changed, thereby producing chessboarded discrete values.~~

4. (CURRENTLY AMENDED) A method as recited in claim 1,

wherein the wherein:

each discrete value of the information pattern is represented by a defined set of multiple consecutive blocks, wherein each consecutive block within a defined set includes its representative discrete value and the consecutive blocks overlap with adjacent blocks in the time-domain;

the absolute-chessboarding further comprises adjusting the information pattern of multiple discrete values so that the representative discrete values in the consecutive blocks of at least one defined set of the multiple discrete values differ

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atty: kasey chrisida

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F: 509.323-8979
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1 from adjacent representative discrete values in the consecutive blocks of the same
2 defined set.:

3 ~~pseudorandomly determining whether to change each discrete value of the~~
4 ~~information pattern, wherein such determining is based upon a look-up table;~~
5 ~~changing each discrete value of the information pattern that the determining~~
6 ~~indicates should be changed, thereby producing chessboarded discrete values.~~

7
8 5. (CANCELED) A method as recited in claim 1, wherein the
9 chessboarded discrete values are entropy-balanced.

10
11 6. (CANCELED) A method as recited in claim 1, wherein the
12 chessboarded discrete values are absolutely chessboarded.

13
14 7. (CURRENTLY AMENDED) A method as recited in claim 1, wherein
15 the digital signal is ~~an~~ a digital audio signal.

16
17 8. (ORIGINAL) A computer-readable medium having computer-
18 executable instructions that, when executed by a computer, performs the method
19 as recited in claim 1.

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1 9. (CURRENTLY AMENDED) A method for revealing an information
2 pattern of multiple absolute-chessboarded discrete values within a digital signal,
3 wherein the absolute-chessboarded discrete values correspond to original discrete
4 values of the information pattern before the values were absolute-chessboarded,
5 the method comprising:

6 receiving the information pattern of multiple absolute-chessboarded
7 discrete values;

8 un-chessboarding the absolute-chessboarded discrete values to produce the
9 original values of the information pattern, wherein un-chessboarding comprises
10 adjusting one or more discrete values of the information pattern.

11
12 10. (ORIGINAL) A method as recited in claim 9 further comprising
13 detecting the original discrete values encoded in the digital signal, wherein such
14 signal is noise in relation to the information pattern.

15
16 11. (CANCELED) A method as recited in claim 9, wherein the un-
17 chessboarding comprises:

18 pseudorandomly determining whether to change each chessboarded discrete
19 value of the information pattern, wherein such determining is based upon a
20 pseudorandom number generator (PRNG) and a key;

21 changing each chessboarded discrete value of the information pattern that
22 the determining indicates should be changed, thereby producing the original
23 discrete values of the information pattern.

1 **12. (CANCELED)** A method as recited in claim 11, wherein the
2 key of the un-chessboarding is identical to a key used to generate the chessboarded
3 discrete values from the original discrete values.

4
5 **13. (CANCELED)** A method as recited in claim 9, wherein the un-
6 chessboarding comprises:

7 pseudorandomly determining whether to change each chessboarded discrete
8 value of the information pattern, wherein such determining is based upon a look-
9 up table;

10 changing each chessboarded discrete value of the information pattern that
11 the determining indicates should be changed, thereby producing the original
12 discrete values of the information pattern.

13
14 **14. (CANCELED)** A method as recited in claim 9, wherein the
15 chessboarded discrete values are entropy-balanced.

16
17 **15. (CANCELED)** A method as recited in claim 9, wherein the
18 chessboarded discrete values are absolutely chessboarded.

19
20 **16. (CURRENTLY AMENDED)** A method as recited in claim 9, wherein
21 the digital signal is ~~an~~ a digital audio signal.

1 17. (ORIGINAL) A computer-readable medium having computer-
2 executable instructions that, when executed by a computer, performs the method
3 as recited in claim 9.

4
5 18. (CURRENTLY AMENDED) A computer-readable medium having
6 computer-executable instructions that, when executed by a computer, perform a
7 method for concealing an information pattern of multiple discrete values within a
8 digital signal, the method comprising:

9 receiving the information pattern of multiple discrete values;

10 absolute-chessboarding the discrete values of the information pattern to
11 produce absolute-chessboarded discrete values, wherein absolute-chessboarding
12 comprises adjusting ~~one or more~~ successive discrete values of the information
13 pattern so that the successive discrete values differ from immediately adjacent
14 discrete values;

15 encoding the absolute-chessboarded discrete values into the digital signal,
16 wherein such signal is noise in relation to the information pattern.

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atty: kasey christie

1 19. (CURRENTLY AMENDED) A computer-readable medium having
2 computer-executable instructions that, when executed by a computer, perform a
3 method for revealing an information pattern of multiple absolute-chessboarded
4 discrete values within a digital signal, wherein the absolute-chessboarded discrete
5 values correspond to original discrete values of the information pattern before the
6 values were absolute-chessboarded, the method comprising:

7 receiving the information pattern of multiple absolute-chessboarded
8 discrete values;

9 un-chessboarding the absolute-chessboarded discrete values to produce the
10 original values of the information pattern, wherein un-chessboarding comprises
11 adjusting one or more discrete values of the information pattern;

12 detecting the original discrete values encoded in the digital signal, wherein
13 such signal is noise in relation to the information pattern.

14
15 20. (CURRENTLY AMENDED) An apparatus comprising:

16 a processor;

17 ~~a-chessboarder~~ an absolute-chessboarder executable on the processor to:

18 receive an information pattern of multiple discrete values;

19 absolute-chessboard the discrete values of the information pattern to
20 produce absolute-chessboarded discrete values, wherein ~~one or more of the~~
21 successive chessboarded discrete values differ differ from the immediately
22 adjacent discrete values before chessboarding.

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F: 509.323-8979
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1 21. (CURRENTLY AMENDED) An apparatus comprising:

2 a processor;

3 an un-chessboarder executable on the processor to:

4 receive an information pattern of multiple absolute-chessboarded
5 discrete values;

6 un-chessboard the absolute-chessboarded discrete values to produce
7 original values of the information pattern, wherein one or more of the un-
8 chessboarded discrete values differs from the chessboarded discrete values
9 before un-chessboarding.

10 22. (CURRENTLY AMENDED) An information pattern encoding system

11 for concealing an information pattern of multiple discrete values within a digital
12 signal, wherein such signal is noise in relation to the information pattern, the
13 system comprising:

14 a receiver for receiving the information pattern of multiple discrete values
15 and the digital signal;

16 ~~a chessboarder~~ an absolute-chessboarder coupled to such receiver, the
17 chessboarder absolute-chessboards the discrete values received from the receiver
18 to produce absolute-chessboarded discrete values, wherein ~~one or more of the~~
19 successive chessboarded discrete values differ differ from the immediately
20 adjacent discrete values before chessboarding;

21 an encoder coupled to the receiver and the chessboarder, the encoder inserts
22 the absolute-chessboarded discrete values received from the absolute-chessboarder
23 into the digital signal received from the receiver.
24
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1 **23. (CANCELED)** An encoding system as recited in claim 22,
2 wherein the chessboarder comprises:

3 a pseudorandom number generator (PRNG) for pseudorandomly
4 determining whether to change each discrete value of the information pattern;

5 a value-adjuster to change each discrete value of the information pattern
6 that the PRNG indicates should be changed, thereby producing chessboarded
7 discrete values.

8
9 **24. (CANCELED)** An encoding system as recited in claim 22,
10 wherein the chessboarder comprises:

11 a look-up table data structure for pseudorandomly determining whether to
12 change each discrete value of the information pattern;

13 a value-adjuster to change each discrete value of the information pattern
14 that the data structure indicates should be changed, thereby producing
15 chessboarded discrete values.

16
17 **25. (CANCELED)** An encoding system as recited in claim 22,
18 wherein the chessboarded discrete values are entropy-balanced.

19
20 **26. (ORIGINAL)** An encoding system as recited in claim 22, wherein
21 the digital signal is a digital audio signal.

22
23 **27. (ORIGINAL)** An operating system comprising an encoding system
24 as recited in claim 22.

1 28. (CURRENTLY AMENDED) A marked signal with an information
2 pattern of multiple chessboarded discrete values encoded therein, the marked
3 signal generated in accordance with the following acts:

4 receiving an information pattern of multiple discrete values and an
5 unmarked signal;

6 absolute-chessboarding the discrete values of the information pattern to
7 produce absolute-chessboarded discrete values, wherein absolute-chessboarding
8 comprises adjusting ~~one or more~~ successive discrete values of the information
9 pattern so that the successive discrete values differ from immediately adjacent
10 discrete values;

11 encoding the absolute-chessboarded discrete values into the unmarked
12 signal to produce the marked signal, wherein such unmarked signal is noise in
13 relation to the information pattern.

14
15 29. (CANCELED) A marked signal as recited in claim 28, wherein
16 the chessboarding comprises:

17 pseudorandomly determining whether to change each discrete value of the
18 information pattern, wherein such determining is based upon a pseudorandom
19 number generator (PRNG) and a key;

20 changing each discrete value of the information pattern that the determining
21 indicates should be changed, thereby producing chessboarded discrete values.

1 30. (CANCELED) A marked signal as recited in claim 28, wherein
2 the chessboarding comprises:

3 pseudorandomly determining whether to change each discrete value of the
4 information pattern, wherein such determining is based upon a look-up table;

5 changing each discrete value of the information pattern that the determining
6 indicates should be changed, thereby producing chessboarded discrete values.

7
8 31. (CANCELED) A marked signal as recited in claim 28, wherein
9 the chessboarded discrete values are entropy-balanced.

10
11 32. (CANCELED) A marked signal as recited in claim 28, wherein
12 the chessboarded discrete values are absolutely chessboarded.

13
14 33. (ORIGINAL) A marked signal as recited in claim 28, wherein the
15 marked and unmarked signals are digital audio signals.

16
17 Claims 34-46 are CANCELED.
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atty: kasey chrisie

1 **47. (CURRENTLY AMENDED)** A method for
2 concealing an information pattern of multiple discrete values within a digital
3 signal, the method comprising:

4 receiving the information pattern of multiple discrete values, wherein each
5 discrete value of the information pattern is represented by a defined set of multiple
6 consecutive blocks, wherein each consecutive block within a defined set includes
7 its representative discrete value;

8 chessboard encoding the discrete values of the information pattern to
9 produce chessboarded discrete values, ~~wherein chessboard encoding comprises~~
10 ~~adjusting the discrete values in accordance with a defined pattern so that the~~
11 representative discrete values in the consecutive blocks of at least one defined set
12 of the multiple discrete values differ from adjacent representative discrete values
13 in the consecutive blocks of the same defined set.

14
15 **48. (PREVIOUSLY PRESENTED)** A method as recited
16 in claim 47, wherein the chessboarded discrete values are absolutely chessboarded.

17
18 **49. (CURRENTLY AMENDED)** A method as recited
19 in claim 47, wherein the digital signal is ~~an~~ a digital audio signal.

20
21 **50. (PREVIOUSLY PRESENTED)** One or more
22 computer-readable media having computer-executable instructions that, when
23 executed by a computer, performs the method as recited in claim 47.
24
25

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1 **51. (CURRENTLY AMENDED)** A method for
2 concealing an information pattern of multiple discrete values within a digital
3 signal, the method comprising:

4 receiving the information pattern of multiple discrete values, wherein each
5 discrete value of the information pattern is represented by a defined set of multiple
6 consecutive blocks, wherein each consecutive block within a defined set includes
7 its representative discrete value;

8 generating a pseudorandom pattern based upon a pseudorandom number
9 generator (PRNG) and a key;

10 chessboard encoding the discrete values of the information pattern to
11 produce chessboarded discrete values, wherein chessboard encoding comprises
12 adjusting one or more of the discrete values the representative discrete values in
13 the consecutive blocks of at least one defined set of the multiple discrete values in
14 accordance with the pseudo-randomly generated pattern.

15
16 **52. (PREVIOUSLY PRESENTED)** A method as recited
17 in claim 51 further comprising encoding the chessboarded discrete values into the
18 digital signal, wherein such signal is noise in relation to the information pattern.

19
20 **53. (PREVIOUSLY PRESENTED)** A method as recited
21 in claim 51, wherein the chessboarded discrete values are entropy-balanced.

22
23 **54. (CURRENTLY AMENDED)** A method as recited
24 in claim 51, wherein the digital signal is ~~an~~ a digital audio signal.

1 **55. (PREVIOUSLY PRESENTED)** One or more
2 computer-readable media having computer-executable instructions that, when
3 executed by a computer, performs the method as recited in claim 51.
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atty. kasey christie